

Exhibit 9

Case Clip(s) Detailed Report
Monday, November 23, 2009, 9:16:18 PM

Oklahoma Trial Sept 2009

 **Haggard, Brian H. (Vol. 01) - 04/16/2009**

1 CLIP (RUNNING 01:24:45.974)

 Final Version

BH01 84 SEGMENTS (RUNNING 01:24:45.974)



1. PAGE 4:22 TO 4:25 (RUNNING 00:00:16.000)

22 BRIAN HAGGARD, PhD
23 having first been duly sworn to testify the truth,
24 the whole truth and nothing but the truth, testified
25 as follows: 08:36AM

2. PAGE 9:24 TO 11:19 (RUNNING 00:02:14.000)

24 Q All right. Go ahead and state your full name
25 to the court, if you would, please. 08:44AM
00010:01 A Brian Edward Haggard.
02 Q Okay. Let's hand you what's been marked as
03 Exhibit 7 and tell the court, what that is, if you
04 would, please.
05 A This is a copy of my resumT or curriculum 08:44AM
06 vitae.
07 Q Okay. How current is this?
08 A It was last updated in January of this year I
09 believe.
10 Q Okay. Let's talk a little bit about your 08:44AM
11 education. You obtained a BS degree at the
12 University of Missouri in Rolla; is that correct?
13 A Yes, sir.
14 Q And your major there was life sciences?
15 A Yes, sir. 08:44AM
16 Q All right. Next you obtained your masters at
17 University of Arkansas in 1997 in environmental soil
18 and water science. Who was on your committee for
19 your masters thesis?
20 A Dr. Phillip Moore was my advisor. Dr. Tommy 08:44AM
21 Daniel was a departmental committee member. Dr.
22 Chuck West was a departmental committee member, and
23 I believe Dr. Thoma was the external member.
24 Q And Thoma, is that T-O-M-A?
25 A T-H-O-M-A. 08:45AM
00011:01 Q Thank you.
02 A Chemical engineering department.
03 Q Then you obtained your doctorate at Oklahoma
04 State University in biosystem engineering in the
05 year 2000. Tell us, if you would, who was your 08:45AM
06 advisors on your thesis there.
07 A Dr. Dan Storm was my dissertation advisor.
08 Q On the committee, who were they?
09 A Dr. Mike Smolen, Dr. Tom Honn and Dr. Emily
10 Stanley. 08:45AM
11 Q As of January 1 when your resumT or curriculum
12 vitae was prepared, is it accurate and complete as
13 far as you know?
14 A I believe so. There might -- there could be
15 some grants that are left off because I haven't 08:46AM
16 updated it.
17 Q Okay, but at the time it's pretty much
18 complete as far as you can tell?
19 A Yes, sir.

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24 A Yes, sir.
 25 Q So at least in one year there was a below 09:05AM
 00027:01 average or somewhat below average of typical
 02 rainfall?
 03 A Yes, sir.
 04 Q Okay. Do you know what effect, if any, the
 05 lower rainfall had in this study? 09:05AM
 06 A Not specifically without reading through the
 07 study again.
 08 Q Okay. Tell the court, if you would, please,
 09 what -- generally what chemicals or items are being
 10 studied in this research. 09:05AM
 11 A In this study, the graduate student looked at
 12 the concentrations of various elements that are
 13 measurable by ICP inductively coupled plasma optical
 14 emission spectrometry. It's a machine that's able
 15 to analyze about 20 elements for us at once, as well 09:06AM
 16 as nitrogen and phosphorus and then some of the soil
 17 parameters.
 18 Q So soluble nutrients would be one example
 19 perhaps?
 20 A Yes, sir, in a general sense. 09:06AM
 21 Q And metals?
 22 A Yes, sir.

11. PAGE 28:12 TO 29:20 (RUNNING 00:01:41.000)

12 Q Let's look back in the abstract then which is
 13 probably easier to find and near the bottom, if I
 14 can point to an area where it starts, the four-year
 15 flow-weighted main -- or mean; do you see that 09:07AM
 16 there?
 17 A The flow-weighted concentrations?
 18 Q Yes. Read where that starts to the end of the
 19 sentence, and the four year FWM, which is
 20 flow-weighted mean -- 09:07AM
 21 A Phosphorus concentration from the low litter
 22 treatment was greater than that from the unamended
 23 control.
 24 Q All right. Does that refresh your
 25 recollection of what occurred in the study? 09:07AM
 00029:01 A Yes, sir. There were higher concentrations
 02 from that plot than the control study.
 03 Q Okay, and those concentrations were in this
 04 case talking about phosphorus; is that right?
 05 A Yes, sir. 09:08AM
 06 Q Was any simulated rainfall used in this study
 07 for the four-year period?
 08 A No, sir.
 09 Q So all of this is actual rainfall that's being
 10 measured across these plots? 09:08AM
 11 A Natural precipitation, yes, sir.
 12 Q All right. Have you -- do you have experience
 13 yourself with working in studies that used rainfall
 14 simulations?
 15 A Yes, sir. 09:08AM
 16 Q Tell the court, if you would, what's the
 17 purpose of using a rainfall simulator.
 18 A A rainfall simulator gives the investigator
 19 the ability to control how much rainfall each plot
 20 receives. 09:08AM

12. PAGE 29:24 TO 29:25 (RUNNING 00:00:08.000)

24 Q Okay. Is there any reason to -- well, is
 25 there -- is it generally the intent to try and 09:09AM

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Oklahoma Trial Sept 2009

13. PAGE 30:01 TO 30:18 (RUNNING 00:00:52.000)

00030:01 replicate natural rainfall events when using
02 simulators?
03 A No, sir.
04 Q Why would you not try and simulate or
05 replicate natural rainfall using the simulator? 09:09AM
06 A When I have personally used in the rainfall
07 studies we did, we ran between five and seven
08 centimeters per hour, which is very, very intense
09 storm event, because we want to generate runoff as
10 quickly as possible to speed the study along because 09:09AM
11 the majority of the time we are working with 28 or
12 more plots at one time.
13 Q Okay. So it's more of a convenience then in
14 order to get the runoff quicker; is that what you're
15 saying? 09:09AM
16 A It is, and it also would replicate being that
17 intense of a storm event, kind of a worst case
18 situation.

14. PAGE 31:09 TO 31:24 (RUNNING 00:00:55.000)

09 Q Yeah. Are the -- do the results in the study
10 in Exhibit 2, are they different than what you have 09:10AM
11 observed when using your rainfall simulation
12 studies?
13 A They are similar in that this study in Exhibit
14 2 showed increased concentrations after litter was
15 applied compared to the control, which is very 09:11AM
16 similar to what we see with the rainfall simulation
17 studies.
18 Q Are the amounts in the rainfall simulation
19 studies just greater because you have kind of
20 expedited the process and the amount of rain that 09:11AM
21 you're simulating?
22 A The plots are rained on more intensely, and we
23 generally get a higher percentage of runoff volume
24 coming off of those, yes, sir.

15. PAGE 32:18 TO 33:17 (RUNNING 00:02:04.000)

18 Q Okay. Let's go to Page 1012 of this Exhibit
19 2. Let's just start at the top right-hand column.
20 The very first sentence up there says, all annual 09:13AM
21 flow-weighted mean and its total dissolved
22 phosphorus concentrations from each treatment, Table
23 5, exceeded the minimum P concentrations of .002 to
24 .09 megagrams per liter to the one power required
25 for algae growth or algae growth. Tell the court 09:13AM
00033:01 what that means in layman terms. What are you
02 finding there in this study based on that statement?
03 A The phosphorus concentrations in the runoff
04 water were greater than that generally observed in
05 streams. 09:13AM
06 Q What does it mean when it says that they
07 exceeded the minimum concentrations required for
08 algae growth; what does that mean?
09 A I really don't -- well, there are studies that
10 I'm aware of but that I have not conducted myself 09:14AM
11 that suggest that algal growth continues up between
12 those range of concentrations listed in that paper,
13 from .002 to .09 milligrams per liter.
14 Q So is the water that's running off these plots
15 in this study, they contain P concentrations great 09:14AM
16 enough to promote algae growth; is that what that
17 says?